

HASP



Health and Safety Plan (HASP)—Valley Pike VOC

The U.S. Environmental Protection Agency, Region 5

Steven Renninger, OSC

EPA Contract No. EP-S5-08-02

EQ

December 2013

HEALTH AND SAFETY PLAN (HASP)

VALLEY PIKE VOC

Prepared for:



The U.S. Environmental Protection Agency
Region 5
Steven Renninger, OSC
EPA Contract No. EP-S5-08-02

Prepared by:



Environmental Quality Management, Inc.
1800 Carillon Boulevard
Cincinnati, Ohio 45240

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EQ PN: 030281-0134

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SIGNATURE PAGE

HEALTH AND SAFETY PLAN

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA CONTRACT NO. EP-S5-08-02
EMERGENCY AND RAPID RESPONSE SERVICES, REGION 5**

Date: December 13, 2013

Project Name: Valley Pike VOC Plume, Riverside, Ohio

ERRS Task Order #: 030281.0134

U.S. EPA Site I.D. #: C5U2

Adopted by: _____
EQ Response Manager

Date: _____

Adopted by: _____
EQ Director of Health & Safety

Date: _____

Adopted by: _____
U.S. EPA Federal On-Scene Coordinator

Date: _____

Adopted by: _____
START Site Lead

Date: _____

ACRONYMS AND TERMS

ANSI	American National Standards Institute
APR	Air Purifying Respirator
ACGIH	American Conference of Governmental Industrial Hygienists
CFR	Code of Federal Regulations
CRZ	Contamination Reduction Zone
DECON	Decontamination
EQ	Environmental Quality Management
ERRS	Emergency and Rapid Response Services
ESI	Expanded Site Inspection
EZ	Exclusion Zone
FOSC	Federal On-Scene Coordinator
GFCI	ground fault circuit interrupter
HAZWOPER	Hazardous Waste Operations and Emergency
HASP	Health and Safety Plan
IARC	International Agency for Research on Cancer
IDLH	Immediately Dangerous to Life & Health
MRP	Mullins Rubber Products, Inc.
NIOSH	National Institute for Occupational Safety & Health
ODH	Ohio Department of Health
OSHA	Occupational Safety and Health Administration
PCE	perchloroethylene
PEL	Permissible Exposure Limit
PID	Photoionization Detector
PPE	personal protection equipment
PPM	Parts Per Million
RM	Response Manager
SDS	Safety Data Sheet
SESI	Supplemental Expanded Site Inspection
SHSO	Site Health and Safety Officer
SOP	Standard Operating Procedure
START	Superfund Technical Assessment & Response Team
STEL	short-term exposure limit
SZ	Support Zone
TCE	trichloroethylene
TLV	Threshold Limit Value
TWA	Time Weighted Average
U.S. EPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds
WHPA	wellhead protection area
WESTON	Weston Solutions Inc.

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INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed for the Valley Pike VOC Site to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. The procedures and guidelines contained herein were based on the best available information at the time of the plan's preparation. Specific requirements will be revised when new information is received or conditions change. A written amendment will document all changes made to the plan. Any amendments to this plan will be included in Appendix A (Health and Safety Plan Amendments). Where appropriate, specific OSHA standards or other guidance will be cited and applied.

All work practices and procedures implemented on site must be designated to minimize worker contact with hazardous materials and to reduce the possibility of physical injury. All work will be performed in accordance with applicable OSHA 29 CFR 1910 and 1926 Health and Safety Regulations and specifically 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response.

Daily Health and Safety Meetings

Daily health and safety meetings will be held at the Valley Pike VOC Site at the start of each shift to ensure that all personnel understand site conditions and operating procedures, to ensure that personal protective equipment is being used correctly, and to address worker health and safety concerns.

Site Health and Safety Plan Acknowledgment

The Response Manager or designee shall be responsible for informing all individuals entering the Work Zone of the contents of this plan and ensuring that each person signs the Health and Safety Plan Acknowledgment Form in Appendix E. By signing the Health and Safety Plan Acknowledgment Form, an individual acknowledges he/she recognizes the potential

hazards present on site and the policies and procedures required to minimize exposure or adverse effects of these hazards.

1. SITE BACKGROUND AND SCOPE OF WORK

1.1 Site Background

Site Description

The Site is located in a residential area west and southwest of the Mullins Rubber Products, Inc. (MRP) facility, 2949 Valley Pike, Riverside, Montgomery County, Ohio. The Site's geographic coordinates (based on the address of 2949 Valley Pike) are 39° 47' 51.2376" North latitude and 84° 7' 55.5522" West longitude. The Site includes a perchloroethylene (PCE) and trichloroethylene (TCE)-contaminated groundwater plume flowing south and southwest of the MRP facility into the adjacent residential area.

The MRP facility sits on a single parcel (Parcel I39002030048) and comprises 3.675 acres. Most of the parcel is covered with buildings and asphalt or concrete. There is a small grassy area in the front parking area and a vegetative swale across the northern fence line. MRP is located approximately 1,300 feet north of the Dayton Mad River Well Field wellhead protection area (WHPA) area 5-year time of travel delineation and 1,500 feet southeast of the Dayton Miami Well Field WHPA area 5-year time of travel delineation. The closest production well is PW-06, approximately 2,650 feet south of the facility in the Mad River Well Field.

Site History

MRP, an active business, began operation in 1942 as the Mullins Tire and Rubber Company. The primary operation at that time was retreading used tires. In 1955, the business expanded from tires into molding different types of rubber products. Beginning in the mid-1960s, the company focused on molding heavy-duty truck trailer suspension bushings, a product line that continues today.

A main building, several storage sheds, and four production wells are located on the MRP property. The active deep production well formerly produced approximately 300 gallons per minute for 8 hours a day. Currently, the production well is only used infrequently to "top off" the closed loop system. There are two deep production wells on stand-by. A fourth shallow (50-

foot-deep) well is damaged and is no longer used but remains in place. All production wells are located on the east side of the MRP facility.

Cooling water from degreasing tanks associated with the manufacturing process previously discharged into a series of five dry wells located on the northern portion of the MRP facility. A dry well is an underground structure that disposes of water by discharging it into the ground where it merges with local groundwater. MRP recently installed a closed-loop chiller system that eliminates the need to discharge cooling water to the dry wells. Until the chiller system was operational, the dry wells were used to return the cooling water to the shallow sand and gravel formation. The five dry wells were interconnected and terminated at the man-made depression located at the northeast corner of the MRP property. The dry wells were considered Class V injection wells under the Ohio Underground Injection Control Program. Permits were not issued, but the wells were registered with Ohio Environmental Protection Agency (Ohio EPA). The dry wells also received stormwater runoff.

The following sections discuss the three Ohio EPA site inspections, followed by a discussion of activities and guidance associated with the Site.

Ohio EPA Site Inspection—November 2010

In November 2010, Ohio EPA conducted a Site Inspection at MRP, and noted the flow of groundwater is to the south and southwest of the MRP facility. Six groundwater grab samples were collected using the Geoprobe® direct-push technology. The active deep production well was sampled, along with Dry Well DW-2, which received cooling water from the degreasing tanks.

The sampling results indicated significant levels of PCE and lower levels of TCE in three of the samples. PCE was detected at 156 micrograms per liter (µg/L), and TCE was detected at 6.18 µg/L in the active production well sample. At that time, water from this production well entered the non-contact cooling system and was discharged to either Dry Well DW-2 or DW-3. The sample collected from DW-2 also contained PCE and TCE, but at lower concentrations than in the production well sample. PCE was detected at 77 µg/L and TCE was detected at 2.2 µg/L in the sample collected from DW-2. PCE and TCE concentrations were also detected in a shallow Geoprobe groundwater grab sample collected in the southwest corner of the MRP

property. PCE was detected at 58 µg/L and TCE was detected at 11 µg/L at this downgradient location. In summary, Ohio EPA documented PCE and TCE contamination in the active production well and dry wells at the MRP facility in the November 2010 sampling.

Ohio EPA Expanded Site Inspection—December 2011

In December 2011, Ohio EPA conducted an Expanded Site Inspection (ESI) at MRP. Three Geoprobe pre-packed monitoring wells were installed. ESI samples documented PCE and TCE in both shallow and deep aquifers, but contamination was highest in MW-3 located at the southwest corner of the MRP facility. PCE was detected at a concentration of 300 µg/L in MW-3. Higher concentrations of PCE in the shallow aquifer pointed to a shallow rather than a deep source of PCE.

Ohio EPA Supplemental Expanded Site Inspection—March 2013

In March 2013, Ohio EPA conducted a Supplemental Expanded Site Inspection (SESI) at the Site. SESI sampling results showed significant detections of TCE and PCE in the shallow sand and gravel aquifer. The highest concentration of PCE in shallow groundwater was detected at MW-14 (soil boring SB-14 location), approximately 50 feet (ft) downgradient of the MRP facility. The concentration of PCE was 14,000 µg/L in the laboratory-analyzed sample. In addition, Ohio EPA observed PCE concentrations ranging from 5 to 14,000 µg/L along the southwestern perimeter of the MRP facility and non-detect to 31 µg/L along the northeastern perimeter of the MRP facility. Based on these groundwater sampling results, the Ohio EPA SESI report concluded that the PCE source is east of sampling location MW-14.

Additionally, PCE was detected at a concentration of 1,500 µg/L at MW-4 in a residential area located 900 ft southwest of the MRP facility. The detection of VOCs in the groundwater underlying this residential area, which is downgradient of the MRP facility, prompted Ohio EPA to request EPA removal assistance in May 2013 to investigate potential vapor intrusion at the Site.

Ohio Department of Health (ODH) Screening and Action Levels

On June 14, 2013, the Health Assessment Section of ODH provided health-based guidance to evaluate the results of vapor intrusion sub-slab and indoor air sampling for contaminants of concern at the Site. The screening levels are based on a 10^{-5} cancer risk and generally are used at remedial sites. The ODH also provided 10^{-4} screening levels for time-critical removal action evaluation.

Ohio EPA Request for Assistance

In a letter dated May 9, 2013, Ohio EPA expressed concerns about the risk to human health from indoor air exposure to VOCs from a shallow PCE and TCE groundwater plume. Ohio EPA viewed the Site as a potential threat to the residences and businesses located southwest of the MRP facility. Ohio EPA requested assistance from the EPA Removal Branch in evaluating options for addressing current and potential vapor intrusion risks at the Valley Pike VOC Site.

1.2 Scope of Work

Site activities will consist of the following:

- Perform sub-slab, crawl space and/or indoor air sampling to assess whether vapor intrusion is occurring.
- As necessary, install vapor abatement systems at residential structures which have sub-slab, crawl space and/or indoor air samples exceeding the site vapor intrusion screening levels.

1.3 Roles and Responsibilities

Federal On-Scene Coordinator (FOSC) or Designee

The FOSC or designee, as the representative of the Federal Government, is responsible for overall project administration and for coordinating health and safety standards for all individuals on site at all times. All Federal Government and contractor health and safety guidelines and requirements as well as all applicable OSHA standards shall be applied. The FOSC or designee is the overall Site Health and Safety Officer (SHSO) and will be responsible for the health and safety of on-site visitors. Each contractor (as an employer under OSHA),

however, is also responsible for the health and safety of its employees. If there is any dispute with regard to health and safety, the following procedures shall be followed:

- Attempt to resolve the issue on site.
- If the issue cannot be resolved, on-site personnel shall consult off-site health and safety personnel for assistance, and the specific task operation in dispute shall be discontinued until the issue is resolved.

Response Manager (RM)

The RM, as the field representative for the ERRS cleanup contractor Environmental Quality Management, Inc. (EQ), has the responsibility for fulfilling the terms of the delivery order. The RM must oversee the project and ensure that all technical, regulatory, and safety requirements are met. It is the RM's responsibility to communicate with the FOSC or designee as frequently as dictated by the FOSC or designee, but at least daily, regarding site cleanup progress and any problems encountered.

Site Health and Safety Officer (SHSO)

The ERRS Site Health and Safety Officer (SHSO) will be assigned to the site on a full-time basis with functional responsibility for implementing the Health and Safety Plan as it applies to ERRS personnel. The RM is the designated ERRS SHSO. Site audits may be conducted by the ERRS Director of Health & Safety and/or the U.S. EPA, as approved by the FOSC or designee.

Specific duties include:

- Assume responsibility for health and safety of ERRS.
- Document safety and health problems.
- Inventory/inspect personal protection equipment (PPE) prior to site entry by personnel.
- Ensure all ERRS personnel are fit for duty based on medical surveillance reports.
- Inspect first aid kits/fire extinguishers

Superfund Technical Assessment and Response Team (START):

The START contractor (Weston Solutions, Inc.) is responsible for providing the OSC with assistance and support in regards to all technical, regulatory and safety aspects of site activity. The START contractor is also available to advise the OSC on matters relating to

sampling, treatment, packaging, labeling, compatibility, transport and disposal of hazardous materials, but is not limited to the abovementioned. START's primary objective will be:

- Documentation
- Vapor intrusion air sampling and air sampling support
- Managing sampling database
- Communicating with the public regarding scheduling vapor intrusion air sampling
- Collect proficiency air samples in properties that have an installed vapor abatement system
- Submit O&M manuals to properties that have an installed vapor abatement system

1.4 Key Personnel

Key personnel are as follows:

U.S. EPA Federal On-Scene Coordinator (FOSC)/Site Safety and Health Officer:	Steven Renninger U.S. EPA 77 West Jackson G17J Chicago, IL 60604
ERRS Contractor:	Environmental Quality Management, Inc. (EQ) 1800 Carillon Boulevard Cincinnati, OH 45240 800-500-0575
ERRS Response Coordinator:	Eric Bowman (EQ)
ERRS Director of Health & Safety:	Mike Martin (EQ)
ERRS Response Manager:	Steve Letany (EQ)
ERRS Team Subcontractor(s):	N/A
START Contractor:	WESTON Solutions Inc 711 E. Monument Avenue, #201 Dayton, OH 45402
START Lead:	John Sherrard (Dynamac)
START Health & Safety:	Tonya Balla (Weston)

Comment [JS1]: Is this correct?

2. SAFETY AND HEALTH HAZARDS

This section of the HASP details the chemical, physical, and biological hazards posed to site personnel during planned project activities. Prior to the day's construction activity, daily "tailgate" safety meetings will be held at the start of each shift. Potential chemical, physical, and biological hazards and preventive safety measures will be discussed at these meetings.

Appendix B presents EQ Standard Operating Procedures (SOPs) related to Safety and Health for tasks to be performed on this project. Weston SOPs for Health and Safety are available through the site lead, or online through Weston's intranet.

2.1 Chemical Hazards

Chemical hazards are expected to be limited to those minimal chemicals brought on site and those expected to be encountered during remediation. Chemicals brought on site will be managed in accordance with the Hazard Communication Standard (OSHA 29 CFR 1910.1200) and the EQ Hazard Communication Program. Appendix C, Chemical Hazard Information, contains generic Safety Data Sheets (SDSs) for the primary contaminants of concern at the Valley Pike VOC Site. This should not be taken as a complete assessment of the hazards posed by contaminants at the Valley Pike VOC Site. Therefore, personnel must be alert for symptoms of possible exposure such as unusual smells; stinging or burning eyes, nose, or throat; skin irritation; and euphoria, depression, sleepiness, or tiredness. Symptoms must be immediately reported to the RM/SHSO.

Exposure to the following chemical hazards may be encountered:

Perchloroethylene (PCE)

PCE is a man-made chemical that is widely used for dry cleaning and as a cleaner to remove grease from metal parts. PCE is a nonflammable, colorless liquid with a somewhat sweet odor and has a sweet, "burning" taste. Exposure to PCE at very high concentrations (particularly in closed, poorly ventilated areas) may cause headaches, lung irritation, dizziness, poor

coordination (clumsiness), and difficulty speaking. Breathing high levels of PCE for long periods may cause nerve, kidney, and liver damage. The International Agency for Research on Cancer (IARC) considers PCE to be "probably carcinogenic to humans." This is based on limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

The OSHA Permissible Exposure Limit – Time-Weighted Average (PEL-TWA) is 100 ppm. The American Conference of Governmental Industrial Hygienists (ACGIH) recommends a Threshold Limit Value – Time-Weighted Average (TLV-TWA) of 25 ppm and a TLV-short-term exposure limit (STEL) of 100 ppm for exposure to PCE.

Trichloroethylene (TCE)

TCE is a man-made chemical that is widely used as a cleaner to remove grease from metal parts. TCE is a nonflammable, colorless liquid with a somewhat sweet odor and has a sweet, "burning" taste. Exposure to TCE at very high concentrations (particularly in closed, poorly ventilated areas) may cause headaches, lung irritation, dizziness, poor coordination (clumsiness), and difficulty speaking. Breathing high levels of TCE for long periods may cause nerve, kidney, and liver damage. IARC considers PCE to be "probably carcinogenic to humans." This is based on limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

The OSHA PEL-TWA is 100 ppm. ACGIH recommends a TLV-TWA of 10 ppm and a TLV-STEL of 25 ppm for exposure to TCE.

2.2 Physical Hazards

Potential hazards associated with this project, if not identified and addressed, could lead to accidents and personal injury. To minimize physical hazards, EQ has developed SOPs that provide minimum safety and health requirements for this project site. These requirements will be followed at all times. Failure to follow safety protocols or continued negligence of these policies may result in expulsion of a worker from the site.

The RM/SHSO will observe the general work practices of each site worker and enforce safe procedures to minimize safety hazards. The following sections discuss typical safety hazards that may occur at the site, along with relevant hazard control procedures. The most significant physical hazards include, but are not limited to, elevated noise levels; manual lifting; energized electrical equipment; and slip, trips, and falls.

Comment [WU2]: Add a section on Cold Stress and Heat Stress

2.2.1 Elevated Noise Levels

During on-site activities requiring the use of power equipment, hearing protection may be required to be worn for certain tasks or in designated areas where noise levels reach ≥ 85 dBA. Training on proper use of hearing protection will be conducted prior to initiation of specified on-site work.

2.2.2 Manual Lifting

The human body is subject to severe damage in the form of back injury and/or hernia if caution is not observed during lifting/handling. General rules to minimize injuries from manual lifting are:

- Get good footing.
- Place feet shoulder width apart.
- BEND AT KNEES to grasp object.
- Keep back straight.
- Get a good grip on object.
- Lift gradually by straightening the legs.
- GET HELP if object is too heavy for you to lift (usually 50-60 lbs lifting limit).

2.2.3 Energized Electrical Equipment

When electric current contacts a part of the body that is touching a grounded object, current will flow through the body. Depending on amperage, health hazards may include electric shock, erratic heartbeat, cardiac arrest, and/or severe burns. A current of 4 amperes or greater can cause immediate cardiac arrest (heart stoppage).

All electric tools and equipment shall be UL approved for potential hazards. Such tools and equipment (saws, drill, compressors, etc.) shall be double insulated, or electric connections shall be made through a ground fault circuit interrupter (GFCI) located outside the hazardous area.

Every electric connection or wire shall be treated as live until determined otherwise. Do not handle electric equipment or wires if your hands are wet or if you are standing on a wet surface. Remove electric plugs from the outlet by grasping the plug and not by pulling or jerking the cord. Position electric wires, extension cords, light cords, and conduits so they cannot be tripped over or walked on. Protect extension cords from damage by routing them overhead and away from traffic areas. Keep electric tools and equipment away from fuel sources, especially flammable liquids.

If any person involved in servicing or maintaining machines or equipment is at risk of injury due to the unexpected start-up of machines or equipment, the Supervisor shall implement the lockout/tagout program that complies with OSHA 29 CFR 190.147, *The Control of Hazardous Energy (Lockout/Tagout)*.

All electrical or piping systems that are operational or have the potential for being operational (energized) shall be rendered non-functional (valve/switch) and locked out of service by a positive locking device. This will include the use of a *Danger – Do NOT Operate* tag to identify the person(s) who locked out the systems, and the date and time that the locking device was installed.

After the system is locked out, it should be checked to ensure the lockout was effective. Only the installer is permitted to remove the tag and locking device. Removal is allowed only after the safety of all workers and equipment has been ensured.

2.2.4 Slip/Trip/Fall Hazards

Some areas may have wet surfaces that will greatly increase the possibility of inadvertent slips. Caution will be exercised when steps and stairs are used because slippery surfaces can lead to fall hazards. Use of handrails when climbing stairs will be enforced. Good housekeeping practices are essential to minimize trip hazards. Protruding objects are any object that extends into the path of travel or working area that may cause injury when contacted by personnel. Always be aware of protruding objects and (when feasible) remove or label the protruding object with an appropriate warning. Safety belts or harnesses will be required by personnel working 6 feet or more above surfaces, including man-lifts. In accordance with ANSI 14.1-3, approved

ladders and/or stairs will provide access to high places. Stairs and platforms will be constructed in compliance with OSHA regulations.

2.3 Biological Hazards

The following biological hazards may be encountered on site, although such encounters are not anticipated to pose a significant risk to site personnel:

2.3.1 Poisonous Plants

Poison ivy, oak, and sumac may be present on site. Poison ivy can be found as vines on tree trunks or as upright bushes. Poison oak is another name for the bush form of poison ivy. Poison ivy consists of three leaflets with notched edges. Two leaflets form a pair on opposite sides of a stalk; the third leaflet stands by itself at the tip. Poison ivy is red in the early spring and turns shiny green later in the spring. Poison sumac can be present in the form of a flat-topped shrub or tree. It has fern-like leaves, velvety dark green on top and pale underneath. The branches of immature sumac have a velvety "down." Poison sumac also has "hairy" berry clusters. Potential for exposure can be minimized by instructing workers to recognize and identify the plants and to use disposable tyvek coveralls and gloves when working in an area where poisonous plants have been identified.

Contact with poison ivy, oak, or sumac may lead to a skin rash characterized by reddened, itchy, blistering skin that needs first-aid treatment. If you believe you have contacted one of these plants, immediately wash your skin thoroughly with soap and water, taking care not to touch your face or other parts of your body prior to washing.

The majority of skin reactions following contact with offending plants are allergic in nature and characterized by:

- General symptoms of headache and fever
- Itching
- Redness
- A rash.

Some of the most common and most severe allergic reactions result from contact with plants of the poison ivy group, including poison oak and poison sumac. Such plants produce a severe rash characterized by redness, blisters, swelling, and intense burning and itching. The

victim may develop a high fever and feel very ill. Ordinarily, the rash begins within a few hours after exposure, but may be delayed 24 to 48 hours.

2.3.2 Biting/Stinging Insects

During site activities, site personnel may encounter a number of insects, such as the brown recluse spider, black widow spider, ticks, mosquitoes, bees, and wasps. The SHSO will inform site workers about potential insect hazards and preventive measures such as the use of insect repellent. Site workers who have a history of allergic reactions to bee stings should inform the SHSO. The SHSO will provide first-aid treatment in the event of an insect bite or sting. If there is a spider bite or insect bite/sting emergency, the individual will be transported to the hospital for treatment.

Comment [JS3]: Need to add a section regarding aggressive dogs. We may encounter dogs when entering people's properties....remember when Stew got bit by a dog at the Behr Site 10 years ago?

3. PERSONNEL TRAINING

3.1 Initial Training

All project personnel who will work on site must comply with the training requirements outlined in OSHA Standard 29 CFR 1910.120(e), this HASP, and individual company health and safety programs. The RM/SHSO will verify and document that all site personnel meet applicable training requirements prior to the start of site work. Documentation regarding training certification will be kept in the site files. The RM/SHSO will be responsible for ensuring the required documentation is present on site.

40-Hour Training

All site workers must have received, at the time of project assignment, a minimum of 40 hours of initial OSHA health and safety training for hazardous waste site operations. Personnel who have not met the requirements for initial training will not be permitted to participate in or supervise field activities.

In addition to the 40 hours of initial health and safety training, each new employee will receive 3 days of directly supervised on-the-job training. This training will address the duties the employee is expected to perform.

Workers on site only occasionally for a specific limited non-intrusive task (such as, but not limited to, land surveying or geophysical surveying) and who are unlikely to be exposed over permissible and published exposure limits shall receive a minimum of 24 hours of instruction off the site and a minimum of 1 day actual field experience under the direct supervision of a trained, experienced supervisor.

Supervisors/Managers

In accordance with OSHA 29 CFR 1910.120(e), on-site management and supervisors directly responsible for site workers or who supervise employees engaged in hazardous waste

operations will have received 40 hours initial training and at least 8 additional hours of specialized training on managing hazardous waste operations at the time of job assignment.

The following individual is the Site Supervisor:

- Steve Letany

3.2 Site-Specific Training

All assigned personnel will receive site-specific training on routes of exposure and adverse health effects associated with the chemicals listed in Section 2.1 (including SDSs in Appendix C).

At least one member of each work crew shall have training in the use of portable fire extinguishers in accordance with 29 CFR 1910.157(g).

In accordance with 29 CFR 1910.120(e), all personnel newly assigned to hazardous waste work will receive 3 days of on-the-job training by an experienced supervisor.

Each person entering the site shall sign a statement attesting to the fact that he/she has read and understands the Health and Safety Plan.

3.3 Annual Refresher

Eight-hour OSHA refresher training courses will be taken at a minimum of once per year. At the time of job assignment, all site workers must have received 8 hours of refresher training within the past year. This course is required for all field personnel to maintain their qualification for hazardous waste field work. A copy of each site worker's most recent 8-hour OSHA refresher training certificate will be maintained on site.

3.4 First Aid / CPR

At least one individual RM on site at the Valley Pike VOC Site will maintain valid and current First Aid and CPR Certification. Treatment will be limited to Good Samaritan/minor first aid. All traumatic/major first-aid and cardiac problems will be referred to medical facilities.

3.5 Subcontractor Requirements

All subcontractors entering the Work Zone will have adequate training satisfying 29 CFR 1910.120(e). The contractor EQ will select to install the vapor abatement systems will be an Ohio Department of Health-Licensed Radon Contractor.

4. PERSONAL PROTECTIVE EQUIPMENT

The following is a brief description of the personal protective equipment (PPE) that may be required during various phases of the project. The U.S. EPA terminology for protective equipment will be used: Levels A, B, C, and D.

4.1 Level A

Level A PPE use is not anticipated during planned project activities.

4.2 Level B

Level B PPE use is not anticipated during planned project activities.

4.3 Level C

Level C PPE use is not anticipated during planned project activities.

4.4 Level D

Level D protection shall be used when:

- The atmosphere contains no known respiratory hazard; and
- Work functions preclude splashes, immersion, or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

Level D protection equipment, at a minimum, shall consist of:

- Coveralls or Work Uniform
- Safety Shoes/Boots with Steel-toe/Steel-shank
- Safety Glasses
- Hard Hat
- Gloves – Cotton/Leather (task dependent)
- Face Shield (task dependent)
- Hearing Protection (task dependent).

4.5 Level D (Modified)

Level D PPE is the anticipated level of protection to be utilized during site activities.

4.6 Decision to Upgrade/Downgrade PPE

The following conditions will necessitate a reevaluation of PPE use:

- Start of a new work activity not previously identified
- Change of job tasks during a work phase
- Change of season/weather
- Exposure to contaminants other than those identified
- Change in ambient levels of contaminants
- Change in work that affects the degree of chemical contact.

5. MEDICAL SURVEILLANCE

5.1 Pre-Employment Physical

Pre-employment and periodic update medical examinations are required for persons working at hazardous waste sites. All physicals must be completed and documented prior to assignment to the site, and all physical exams will be conducted following parameters established by employee Corporate Physicians. EQ and all permanent team subcontractors must adhere to the Drug Free Workplace Act of 1988.

5.2 Site-Specific Physical Examination

A current Fitness for Duty statement will be kept on site for all personnel.

5.3 Annual Physical Exam

A medical examination must be completed within the 12-month period prior to on-site activity and then repeated annually.

5.4 Accidental/Suspected Exposure Physical

Following any accidental or suspected uncontrolled exposure to site contaminants, personnel should be scheduled for a special physical examination. The physical examination will be specific for the contaminants and the associated target organs or physiological system. Exposure to blood/body fluids requires adherence to 29 CFR1910.1030 (Bloodborne Pathogens).

5.5 Contractor Physical Examination Requirements

All subcontractors entering the Work Zone must have adequate medical surveillance satisfying 29 CFR 1910.120(f).

5.6 Site Documentation

ALL personnel on site must have the following documentation available on site:

- Copy of 40-Hour HAZWOPER Training certificate
- Copy of Manager's/Supervisor's 8-Hour HAZWOPER certificate (if applicable)
- Copy of 8-Hour Annual Refresher (if > 12 months since 40-hour)
- CPR/First Aid Certificate (if applicable)
- Respirator Fit Test Record (if applicable)
- Medical Fitness for Duty Release (if applicable)
- Worksite Exposure Documentation (if applicable).

6. EXPOSURE MONITORING

Monitoring procedures may be employed to assess employee exposure to chemical and physical hazards. Monitoring will consist primarily of on-site determination of various parameters (e.g., airborne contaminant concentrations and heat stress effects), but may be supplemented by more sophisticated monitoring techniques, if necessary. According to 29 CFR 1910.120, air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection needed on site.

6.1 General Area Air Monitoring

No general area air monitoring to evaluate worker exposure is required based on the type of sites (i.e., residential homes) and the extremely low measured levels of PCE and TCE. Sub-slab air monitoring and indoor air monitoring may will be performed, however, to evaluate whether vapor intrusion from VOC-contaminated groundwater is migrating through the soil and into residential homes. If needed, START will conduct general air monitoring.

6.2 Personal Air Monitoring

No personal air monitoring is required based on the type of sites (i.e., residential homes) and the extremely low measured levels of PCE and TCE.

6.3 Noise Exposure Monitoring

Noise monitoring is not anticipated.

6.4 Calibration Procedures

All instruments used will be calibrated at the beginning and end of each work shift in accordance with the manufacturer's recommendations.

6.5 Heat/Cold Stress Monitoring

Heat stress monitoring is not anticipated.

Comment [JS4]: I would add heat and cold stress, especially since some of the vapor abatement installations will be a combination of inside and outside work. If this project goes into the summer, than heat stress may be an issue.

6.6 Name(s) of Monitoring Technician(s)

~~John Sherrard~~ If heat stress and cold stress monitoring is required, EQ RM Steve Letany will be the monitoring technician.

6.7 Location of Monitoring Records

Copies of monitoring records will be retained at the on-site command post during the project and in the job file upon completion of the project.

7. SITE CONTROL AND STANDARD OPERATING PROCEDURES

7.1 Work Zones

The primary purpose of site controls is to establish the hazardous area perimeter, to reduce migration of contaminants into clean areas, and to prevent access or exposure to hazardous materials by unauthorized persons. Given the nature of the work and associated potential hazards, the typical Exclusion, Contamination Reduction, and Support Zones will not need to be established. Rather, an administratively controlled “Work Zone” encompassing the fieldwork activities will be established.

7.2 General Field Safety Rules

The following are general field safety rules:

- All visitors must be sent to the EPA Project Office located at 2049 Harshman Road, Riverside, Ohio ~~command post~~.
- Eating, drinking, or smoking is permitted only in designated areas.
- Safety equipment described in Section 4 is required for all field personnel in the Work Zone.
- Personnel will only travel in vehicles equipped with individual seats for each occupant. Seat belts will be worn as required.
- Fire extinguishers will be available on site and in all areas with increased fire danger.
- A Visitor Log will be maintained at the EPA Project Office ~~command post~~. All personnel coming to the office ~~on site~~ will sign in and out on a daily basis.
- Buddy System
 - The buddy system is mandatory at any time that personnel are working in remote areas or crawl spaces, or when conditions present a risk to personnel.
 - A buddy system requires at least two trained/experienced persons who work as a team and maintain (at a minimum) audible and/or visual contact.
- Communication Procedures
 - The crews should remain in constant radio or visual contact while on site.
 - The site evacuation signal will be three blasts on the air or vehicle horn.

8. DECONTAMINATION PROCEDURES

Equipment and personnel decontamination procedures are not required because the site has no inherent chemical exposure hazards.

8.1 Equipment Decontamination

Not Applicable

8.2 Personnel Decontamination

Not Applicable

8.3 Emergency Decontamination

Not Applicable

8.4 Disposition of Decontamination Wastes

Not Applicable

9. HAZARD COMMUNICATION PROGRAM

Each contractor will be responsible for maintaining a copy of its Hazard Communication Program on site, including a Hazardous Chemical List and associated SDSs.

9.1 Safety Data Sheets

Each contractor will maintain SDSs for hazardous chemicals used during operations, **NOT** chemical hazards associated with cleanup/remediation. SDSs will be available to all employees for review during the work shift. See Appendix C for generic SDSs on the chemicals of concern at the Valley Pike VOC Site.

9.2 Container Labeling

All containers received on site will be inspected by the contractor using the material to ensure the following:

- All containers are clearly labeled, legible, and in English.
- Containers are marked with the appropriate hazard warning.
- Containers contain contact information of the manufacturer.

9.3 Hazardous Chemical List

Each contractor will be responsible for maintaining a Hazardous Chemical List.

9.4 Employee Training and Information

Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:

- An overview of the requirements contained in the Hazard Communication Standard
- Hazardous chemicals present at the site
- Location and availability of the written Hazard Communication Program
- Physical and health effects of the hazardous chemicals

- Methods of preventing or eliminating exposure
- Emergency procedures to follow if exposed
- How to read labels and review MSDSs to obtain information
- Location of MSDS file and location of hazardous chemical list.

10. EMERGENCIES/ACCIDENTS/INJURIES

It is essential that site personnel be prepared in the event of an emergency. Emergencies can take many forms: illnesses or injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather. The following sections outline the general procedures to be followed in case of an emergency. Emergency information should be posted as appropriate.

10.1 Emergency Contacts

The Emergency Contacts for the Valley Pike VOC Site are:

- Fire: 911
- Police: 911
- Sheriff: 911
- Ambulance: 911

Serious Injuries:

Hospital: **Grandview Hospital and Medical Center**
405 W. Grand Avenue
Dayton, Ohio 45405

Telephone: (937) 226-3200

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Comment [JS5]: We are adding in an Urgent Care in the event we have a non serious injury.

Directions from the EPA Project Office site to the Grandview Hospital and Medical Center: (See Map in Appendix D)

- Estimated Travel Distance: 5.3 miles
- Estimated Travel Time: 7 to 106 minutes (subject to specific residential property)

NOTE: Maps and directions to the hospital (serious injury) and Urgent Care (non-serious injury) will be posted in the EPA Project Office -Command Post office and in site vehicles.
(Confirm route below once on site)

The route to the hospital was verified by _____ on _____. Distance from site to hospital is ____ miles. Approximate driving time is ____ minutes. The fire, police, and hospital were notified of site operations by _____ on _____.

Nonserious Injuries:

Urgent Care: Hometown Urgent Care

6210 Brandt Pike

Huber Heights, Ohio 45424

Telephone: (937) 236-8630

Directions from the EPA Project Office to Hometown Urgent Care: (See Map in Appendix D)

- Estimated Travel Distance: 3 miles
- Estimated Travel Time: 5-7 minutes (subject to specific residential property)

The route to the Urgent Care facility was verified by _____ on _____.
Distance from site to hospital is _____ miles. Approximate driving time is _____ minutes.
The fire, police, and hospital were notified of site operations by _____ on _____.

Comment [JS6]: Please add a map to App D showing route from EPA Project Office located at 2049 Harshman Road to the Urgent Care facility

10.2 Additional Emergency Numbers

The following are additional emergency numbers:

- National Response Center (24-hr) 800-424-8802
- U.S. EPA Region 5 513-569-7539 (S. Renninger)
- Center for Disease Control (24-hr) 770-488-7100
- ATF (Explosives Hotline) 888-283-2662
- Chemtrec (24-hr) 800-262-8200

Environmental Quality Management, Inc. Contacts

The following are EQ contacts:

- EQ Regional Office 513-825-7500
- EQ ERRS Hotline (24-hr) 800-500-0575
- EQ Response Manager – S. Letany 513-543-3909
- EQ Program Manager - J. Mullane 513-543-4072
- EQ Director of Health and Safety – M. Martin, CIH 513-310-8419
- Mercy Health Solutions - Dr. M. Daggy 513-874-8111

|

START Contacts

The following are START contacts:

- | | |
|---|-----------------------|
| • START Project Manager - John Sherrard | 513-703-3092/825-7500 |
| • START Health and Safety – Tonya Balla | 847-528-2623 |
| • START Division Health and Safety – Ted Deecke | 947-337-4147 |
| • WorkCare (Medical Services) – Dr. P Greaney | 800-455-6155 |

10.3 Emergency Equipment Available on Site

Communications Equipment

- Private Telephones
- Cell Phones: Various Personnel
- Emergency Alarms/Horns

Medical Equipment

- First Aid Kits
- Eye Wash Station

Inspection Date: _____ By: _____

Firefighting Equipment

- Fire Extinguishers

Inspection Date: _____ By: _____

Spill or Leak Equipment

- N/A

Additional Emergency Equipment (complete on site)

10.4 Accident Reporting/Investigation

Any significant failures of the HASP, including those resulting in any injury or property damage, will be investigated. The investigation will be performed by the RM/SHSO. In addition, the government representative will be immediately informed of any incident requiring investigation and the progress of the investigation. The government representative will

determine if the incident is serious enough to warrant modifying or terminating certain field activities pending the results of the investigation. The results of any accident investigation will be summarized in a report. This report will be maintained on site for the duration of the project and made available to the government representative. EQ will report, in writing, the occurrence of a recordable accident (as defined by 29 CFR 1904.12) to the government representative within 24 hours of its occurrence. As a follow-up, EQ will forward a completed Accident Investigation Report to the government within 72 hours of the accident's occurrence. EQ agrees to participate in any and all inquiries into such accidents made by the government representative. All injuries or occupational illnesses excluding injuries requiring only first aid must be investigated, and an Accident/Injury Report Form must be completed. In the case of an injury to an employee that requires medical treatment, these steps will be followed:

- Procure medical treatment for the worker.
- The RM/SHSO will investigate the incident and fill out appropriate Accident/Injury Report Form(s).
- The RM/SHSO will complete and submit any necessary worker's compensation reports.
- The RM/SHSO will ensure the government representative is notified immediately.
- OSHA Form 300 Log will be updated if the injury is recordable per 29 CFR 1904.
- A report must be obtained from the attending physician that clears the employee to resume regular duties, describes any modified work that is acceptable, or removes the employee from work duty.

In the case of a fatal injury or where three or more persons are admitted to the hospital for an overnight stay, OSHA and other appropriate agencies will be notified within 48 hours of the incident, and an in-depth accident investigation will be conducted in addition to the steps identified above.

The RM/SHSO will immediately notify the government representative and the CO in the event of an accident that results in death, serious injury, or substantial property damage. The government representative will determine if field activities should be immediately modified or terminated. This determination will be made in concurrence with the CO.

11. EMERGENCY RESPONSE CONTINGENCY PLAN

11.1 Project Personnel Responsibilities During Emergencies

The Response Manager or designated government representative has primary responsibility for responding to and correcting emergency situations. Duties include:

- Take appropriate measures to protect personnel including: withdrawal from the work zone, total evacuation and securing of the site, or upgrading or downgrading the level of protective clothing and respiratory protection.
- Take appropriate measures to protect the public and the environment including isolating and securing the site, preventing runoff to surface waters, and ending or controlling the emergency to the extent possible.
- Ensure that appropriate Federal, State, and local agencies are informed, and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. In the event of an air release of toxic materials, the local authorities should be informed in order to assess the need for evacuation. In the event of a spill, sanitary districts and drinking water systems may need to be alerted.
- Ensure that appropriate decon treatment or testing for exposed or injured personnel is obtained.
- Determine the cause of the incident and make recommendations to prevent the recurrence.
- Ensure that all required reports have been prepared.

The Response Manager must immediately report emergency situations to the designated government representative, take appropriate measures to protect site personnel, and assist as necessary in responding to and mitigating the emergency situation.

11.2 Medical Emergencies

Any person who becomes ill or injured in the Work Zone must be decontaminated to the maximum extent possible when practical. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be

administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to the FOSC or designee.

If the first aid provided to an injured person presents the possibility of exposure to blood or other body fluids or potentially infectious material, the caregiver must wear surgical type impermeable gloves. The exposure must be reported to the FOSC or designee, the individual's supervisor, and the SHSO within 24 hours of exposure, naming the injured person(s) and the person(s) administering first aid. Hepatitis B vaccination and treatment must be offered to exposed individuals within 24 hours or as soon as possible after exposure. Exposed individuals may decline the vaccination and treatment, but must do so by means of a signed statement.

Any person transporting an injured/exposed person to a clinic or hospital for treatment should take with them directions to the hospital and information on the chemical(s) they may have been exposed to. Any vehicle used to transport contaminated personnel will be cleaned or decontaminated as necessary.

11.3 Fire or Explosion

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival, the FOSC or designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on site.

If it is safe to do so, site personnel may:

- Use fire-fighting equipment available on site.
- Remove or isolate flammable or other hazardous materials that may contribute to the fire.

11.4 Spills, Leaks, or Releases

In the event of a spill or a leak, site personnel will:

- Locate the source of the spillage and stop the flow if it can be done safely.
- Begin containment and recovery of the spilled materials.

11.5 Evacuation Routes and Resources

Evacuation routes have been established by work area locations for this site. All buildings and outside work areas have been provided with designated exit points. Evacuation

should be conducted immediately, without regard for equipment under conditions of extreme emergency.

11.6 Adverse Weather Reaction Plan

Adverse weather can take many forms, such as severe thunder and lightning storms, winter storms, hail, freezing rain, flash floods, and tornados. Sudden changes in the weather, extreme weather conditions, and natural disasters can create a number of hazards. Generally, adverse weather can create hazards due to slips, trips and falls, generation of airborne debris, electrical shock, etc. Natural disasters can create many secondary hazards such as release of hazardous materials into the environment, structure failure, and fires.

In the event of impending adverse weather, continuous monitoring will provide current information regarding impending adverse weather. In addition, monitoring of weather broadcasts and television broadcasts will provide information on current weather conditions. The terms "tornado watch" and "tornado warning" may be used during the broadcasts. The former term means that conditions are favorable for a tornado to develop although none has actually been sighted. The latter term means that a tornado has been visually sighted. Additional weather terminology includes:

- **Weather Watch**—tornado, severe thunderstorm, flash flood, winter storm. "Conditions are favorable for the development/occurrence of hazardous weather."
- **Weather Warning**—by county issuance
- **Tornado**—tornado sighted or indicated by radar
- **Severe Thunderstorm**—winds > 50 mph and/or ¼-inch hail stones sighted or predicted by radar
- **Flash Flood**—sighted or indicated by radar

Information provided by the emergency and weather radio broadcasts will be used to determine what actions need to be taken by project personnel. The EPA FOSC or designee in conjunction with the RM / SHSO will decide what operations, if any, are safe to perform based on existing and anticipated weather conditions, and shall notify personnel when to stop operations and seek shelter.

The best protection against most severe weather episodes and natural disasters is to seek shelter before a storm hits. When notification is given that severe weather (particularly tornados) is approaching an area where project personnel are located, the site should be secured. If an area is experiencing severe weather, the EPA FOSC or designee will decide whether to stop work activities and have affected personnel seek shelter.

At the site, workers will be instructed to exit the trailers and seek shelter until the weather improves. All personnel working on water will shut off equipment if safe to do so, and return to shore as soon as possible. Do not seek shelter under the trailers under any circumstances. If no warning is provided, personnel should leave the trailers and lie face down in low-lying grassy areas away from the trailers.

In particular, these precautions should be taken under the following conditions:

- **Tornado**—Vacate trailers, automobiles, seek building/shelter on/above ground.
- **Severe Thunderstorm**—Lightning - avoid tall trees, metal objects, towers, fences, creek beds.
- **Flash flood**—Seek higher ground.

12. CONFINED SPACE

Not Applicable – There will be no confined space entries during site work activities.

APPENDIX A
HEALTH AND SAFETY PLAN AMENDMENTS

HEALTH AND SAFETY PLAN AMENDMENT: #_____:

SITE NAME:_____

DATE:_____

TYPE OF AMENDMENT: _____

REASON FOR AMENDMENT: _____

ALTERNATE SAFEGUARD PROCEDURES: _____

REQUIRED CHANGES IN PPE: _____

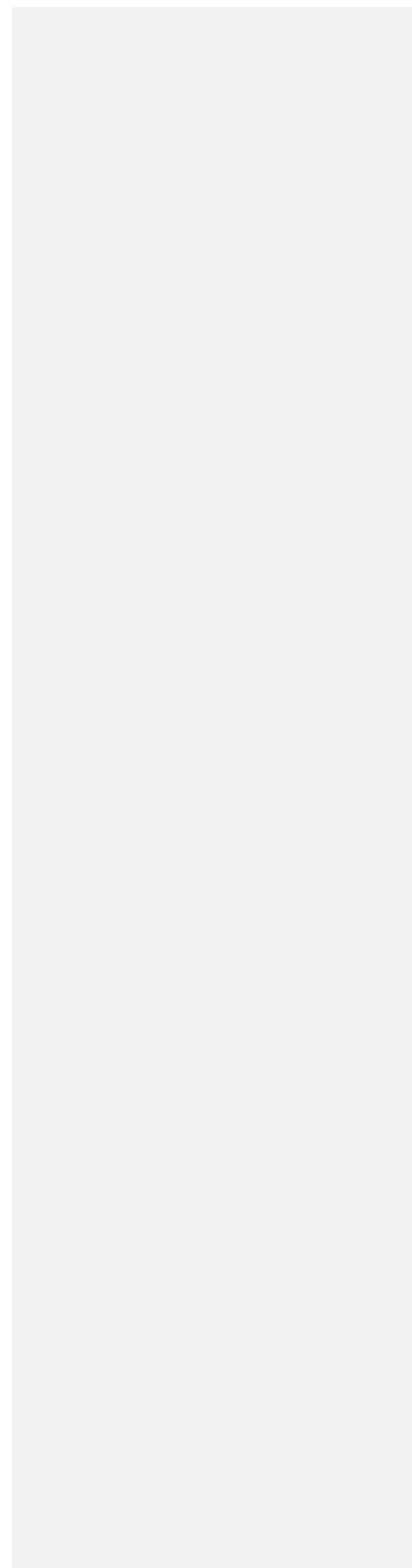
ERRS Response Manager (Date)

Lead START (Date)

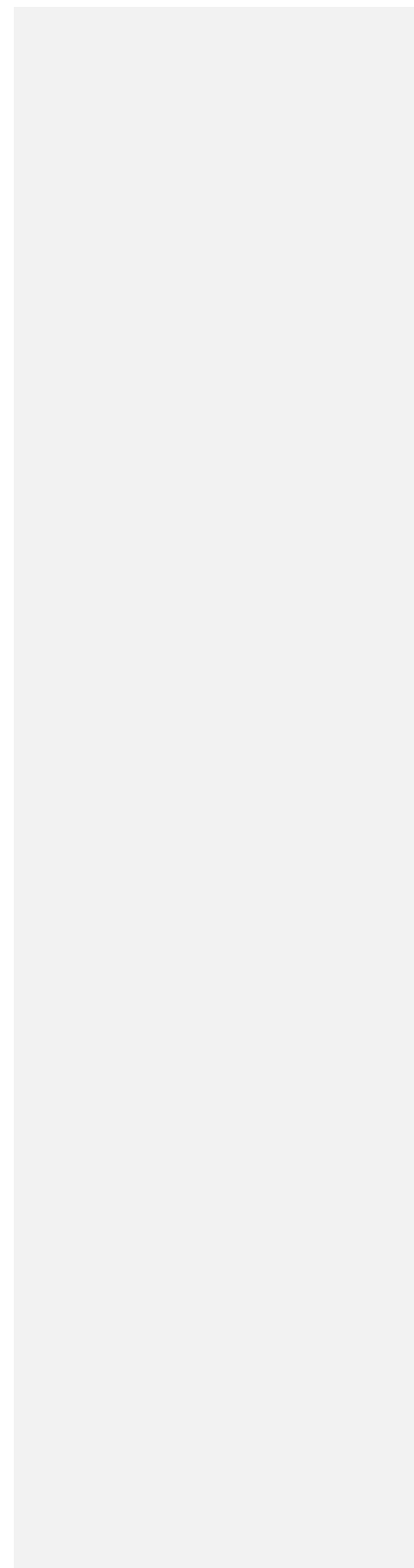
ERRS Health and Safety Manager (Date)

U.S. EPA FOSC (Date)

APPENDIX B
STANDARD OPERATING PROCEDURES



APPENDIX C
CHEMICAL HAZARD INFORMATION



APPENDIX D

SITE MAPS

APPENDIX E
HEALTH AND SAFETY PLAN ACKNOWLEDGMENT FORM

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT FORM

I have been informed and understand and will abide by the procedures set forth in the Site Health and Safety Plan and respective Amendments, if any, for the Valley Pike VOC Site.

Name	Company	Sign	Date
